

42390P10818

PATENT

**REMARKS**

Claims 1, 2, 4, 6-8, 10-12, 15-16, 18-20, 22, 25-26 and 28-30 of the application stand rejected. Claims 1, 8, 10, 12, 15, 18, 19, 22, 25, 28 and 29 have been amended herein to more clearly define the scope of the presently claimed invention. Applicants respectfully request reconsideration of these pending claims in light of the amendments and remarks herein.

35 U.S.C. §102

Claims 29 and 30 are rejected under 35 U.S.C. §102(e) as anticipated by Junqua et al, U.S. Patent No. 6, 415,257 ("Junqua"). The Examiner contends that Junqua disclosed all the elements of these claims. Applicants respectfully traverse the rejection.

Junqua describes a system for identifying and adapting a TV-user profile by means of speech technology. In Junqua, a user's identity may be verified by a verification/identification module based on the user's speech, and then a predefined or pre-stored set of user preferences may be invoked to further guide the interaction between the user and the system (Junqua, Col. 1, lines 42-54). The Examiner rejected Applicants' previous arguments as being unpersuasive and suggests that Junqua does in fact disclose all the elements of independent Claim 29. Applicants strongly disagree.

The Examiner cites Col 3, lines 6-10 of Junqua as referring to "one set of pre-defined grammars for a particular user, and a second set of grammars open to all users, and the user-based set is chosen based upon the semantics of the user input." (Office Action, Page 9). Specifically, the section of Junqua referred to by the Examiner states: "The system includes a natural language parser 24 (FIG. 1) that uses a set of pre-defined grammars to ascertain the semantics or meaning expressed by the user. The user profile database 16 includes storage of a set of customized dialog grammars as at 26. These customized grammars are used by the natural language parser along with a set of pre-defined grammars that are global to all users." Applicants respectfully point out that Col. 3 of Junqua appears to simply describe how the natural language parser extracts semantics behind a user's natural language spoken input based on a database having two sets of grammars. Nothing in this section, however, can be construed to mean that

42390P10818

PATENT

Junqua discloses the claimed element of a control module that *selects* one of the at least two speech models as a selected default speech model based on the context information, *configures* a speech recognizer to use the selected default speech model, *dynamically identifies* whether a new speech model has a better fit to the characteristics of the context information and if so, *associates* the new speech model with the call as a new default speech model.

Col. 10 of Junqua also does not disclose these elements, and cannot be combined with the description in Col. 3 in manner described by the Examiner. The Examiner argues that contrary to Applicants assertion that there is no relationship between the models in Cols. 3 and 10 of Junqua, the models in Col. 3 of Junqua teach the “use of the default user-defined models” and the “Col. 10 models refer to the newly updated model via speaker adapted, which is dynamically altered based upon new context information for each time the system is used by that particular user.” (Office Action, Page 9). The Examiner thus essentially asserts that the combination of what is described in Cols. 3 and 10 of Junqua discloses all the elements of the claimed invention. Again, Applicants strongly disagree with this contention.

Applicants disagree that the models in Cols. 3 and 10 of Junqua are related in the manner suggested by the Examiner. . There is simply no basis for the Examiner’s assertion that “Col. 10 models refer to the newly updated model via speaker adapted, which is dynamically altered based upon new context information for each time the system is used by that particular user.” (Office Action, Page 9). There is no such relationship between the Cols. 3 and 10 of Junqua. Instead, Col. 10 line 55 of Junqua, under the heading “Speaker Adaption”, talks about a new set of HMMs constructed based on a supervector to generate the adapted model. Once again, Examiner makes no showing of how these various sections of Junqua relate to each other. Instead, the Examiner simply states conclusively that the models in Col. 3 of Junqua teach the “use of the default user-defined models” and the “Col. 10 models refer to the newly updated model via speaker adapted, which is dynamically altered based upon new context information for each time the system is used by that particular user.” (Office Action, Page 9). Based simply on this conclusory statement, Applicants are unable to address the Examiner’s concern any further. Applicants respectfully maintain that the elements that

42390P10818

PATENT

the Examiner highlighted cannot be related in the manner suggested to anticipate Claims 29 and 30.

Finally, the Examiner also once again cites Junqua, Col. 11, lines 25-44 and Col. 12, lines 36-66 as disclosing the element of *dynamically* identifying whether a new speech model has a better fit to the initial context information (i.e., the user information and/or the channel information). Applicants respectfully disagree that this section of Junqua can be read in the manner suggested by the Examiner. In summary, the various discrete sections of Junqua highlighted by the Examiner cannot be combined in the manner suggested to anticipate the claimed invention. Applicants therefore respectfully submit that Junqua in fact does not disclose various elements of independent Claim 29 (and by extension, the elements of dependant Claim 30).

35 U.S.C. §103

Claims 1, 2, 6-8, 11, 12, 15, 16, 18-20, 22, 25, 26 and 28 stand rejected under 35 U.S.C. §103 as being unpatentable over Sherwood, U.S. Patent No. 6, 212, 498 ("Sherwood") in view of Sharma et al, U.S. Patent No. 6, 480,825 ("Sharma"). Additionally, Claims 4 and 10 stand rejected under 35 U.S.C. §103 as being unpatentable over Sharma in view of Sharma, and in further view of Junqua. Applicants respectfully traverse the rejections.

The Examiner states that Sherwood discloses "an enrollment method where a user utterance and determining the context of a user utterance and determining whether the utterance matches a portion of enrollment text." The Examiner then concedes that Sherwood does not explicitly teach "determining initial information and mapping target, mapping the initial information to at least one model, identifying a model having a best fir to the initial information, associating the model having a best fir with the mapping target as a default model." The Examiner suggests, however that Sharma discloses the elements of determining initial information associated with an input speech (Sharma, Col. 10, line 25), mapping the initial information to at least one model (Sharma Col. 1, line 38), dynamically identifying whether a new speech model has a better fit to the initial information (Sharma, Col. 10, line 55, Col. 11, lines 25-44, lines 36-66) and if so, associating the model having a best fit with the mapping target as a default model

42390P10818

PATENT

(Sharma, Col. 12, line 1). The Examiner concludes, however, that the combination of Sharma and Sherwood teaches all elements of the claimed invention. Applicants strongly disagree.

Sharma discloses a system and method for detecting a recorded voice. Specifically, Sharma describes a system and method to analyze the temporal characteristics of a user's speech, analyze the characteristics of the channel over which the user's voice is transmitted, train a pattern classifier to recognize the difference between live and recorded speech and employ an "audio watermark" to detect use of a recording of a previous enrollment or verification attempt (Sharma, Col. 3, lines 13-23). The focus of Sharma is therefore to examine various characteristics of user speech to identify differences between live and/or recorded speech.

The Examiner suggests that various sections of Sharma teach the elements of the claimed invention, and that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sherwood according to Sharma. In the Examiner's response to Applicants' previously submitted arguments re Sharma, the Examiner states that "the elements of Sharma that are relied upon relate to the measuring of an existing model and determining whether or not updating the model is necessary or prudent. For example...examiner points to the previously referred to section of Sharma (col. 12, line 1) wherein the combined set of speech characteristics represent the updated model as determined by the comparison process detailed in column 11 of Sharma.

Again, Applicants strongly disagree with the Examiner's characterization of Sharma. Applicants respectfully reiterate that the sections of Sharma highlighted by the Examiner bear no resemblance to the claimed elements of the independent claims. For example, the Examiner submits that Sharma, Col. 10, line 55, Col. 11, lines 25-44 and Col. 12, lines 36-66 teach or suggest the claimed element of "dynamically identifying whether a new speech model has a better fit to the initial information". In fact, the sections of Sharma highlighted by the Examiner make no mention whatsoever of speech models. Col. 10, line 55 states "... speech characteristics set is created during enrollment...", which does not teach this element. Col. 11, lines 24-44 describes the following:

"It is preferred that all temporal characteristics (e.g., pitch contour, loudness contour, etc.) are compared to stored values before making a decision 170 as to the use of

42390P10818

PATENT

a recording. In the preferred embodiment, an overall match between characteristics sets is detected only if the majority of characteristics employed match within certain tolerances. As discussed, humans are not expected to be able to repeat temporal characteristics of speech with significant precision. Accordingly, a close match between current and previous speech characteristics sets indicates the use of a recording device. In addition to temporal characteristics, the "verification score" produced by ASR system 20 can be used as another test characteristic because, ordinarily, the score is not expected to remain constant on successive verification attempts. It is preferred that if the verification score is not to be used as a comparative characteristic, the comparison of temporal speech characteristics precede the comparison of the current sample to the stored voice print by ASR system 20."

Nothing whatsoever in this section can be construed as "dynamically identifying whether a *new speech model* has a *better fit* to the initial information." This paragraph simply describes the fact that a close match between current and previous speech characteristics sets indicates the use of a recording device. Applicants fail to see the relevance of this section to the elements of the claimed invention. Similarly, Col. 12, lines 33-66 of Sharma describes the following:

"It is preferred that the channel characteristics be extracted as follows using the concepts of homomorphic deconvolution. An audio signal with frequency spectrum  $S(\omega)$  is distorted by a transmission channel with frequency response .... If the logarithm and inverse Fourier transform ... of the magnitude of both sides of the equation are taken, the following equation result:.... Then, the preceding equation can be equivalently represented in cepstral domain: ... because cepstrum is defined as the inverse Fourier transform of the logarithm of short-time spectral magnitude. Time invariant convolution distortion ... can be estimated by averaging the cepstral vectors in the cepstral domain. The channel estimate ... in the cepstral domain is equivalent to the mean of  $c(n)$  assuming that the mean of the speech portion of the cepstral equation  $c(n)$  goes to zero. However, in practice, the cepstral mean may include information other than the estimate of the time-invariant convolutional distortion, such as coarse spectral distribution of the speech itself. Pole filtering attempts to decouple the speech information from the channel information in the cepstral mean."

Again, Applicants fail to see the relevance of this section to the element of "dynamically identifying whether a *new speech model* has a *better fit* to the initial information." The paragraphs preceeding these paragraphs of Sharma indicate that this is the general operation of another embodiment of the present invention employing recording device detection module 25B, which uses channel characteristics to detect whether an audio sample is a recording. The Examiner fails to explain how this section (or any of the other sections of Sharma) teach or suggest the elements of the presently claimed invention and Applicants respectfully submit that the Examiner cannot make such a showing because Sharma does not in fact teach or suggest these elements. Applicants therefore respectfully contend that based on Applicants' own review of

42390P10818

PATENT

Sharma and/or the sections highlighted by the Examiner, Sharma does not teach various elements of the claimed invention.

Claim 4 is dependant on independent Claim 1 and Claim 10 is dependant on independent Claim 8. As described above, Sharma and/or Sherwood do not teach various elements of Claims 1 and 8. Applicants respectfully submit that the addition of Junqua to these references also does not teach these various elements. Thus, regardless of whether Junqua teaches the use of personal characteristics, Sherwood, Sharma and Junqua, alone or in combination do not teach all the elements of Claims 4 and 10. As such, Applicants submit that Claims 4 and 10 are patentable over Sherwood, Sharma and/or Junqua and respectfully request the Examiner to withdraw the rejection to these claims under 35 U.S.C. §103.

In summary, Applicants respectfully submit that the cited references do not render independent Claims 1, 8, 15, 19 and 25 unpatentable (and by extension, any claims dependant on these independent claims). Applicants therefore respectfully request the Examiner to withdraw the rejection to Claims 1, 2, 6-8, 11, 12, 15, 16, 18-20, 22, 25, 26 and 28 under 35 U.S.C. §103.

PATENT

42390P10818

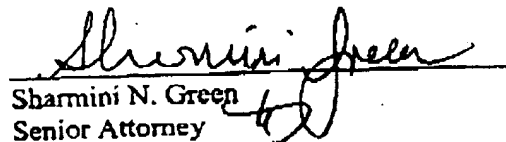
**CONCLUSION**

Based on the foregoing, Applicants respectfully submit that the applicable objections and rejections have been overcome and that pending Claims 1, 2, 4, 6-8, 10-12, 15-16, 18-20, 22, 25-26 and 28-30 are in condition for allowance. Applicants therefore respectfully request an early issuance of a Notice of Allowance in this case. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (310) 406-2362.

If there are any additional charges, please charge Deposit Account No. 50-0221.

Respectfully submitted,

Dated: April 14, 2005

  
Sharmini N. Green  
Senior Attorney  
Intel Corporation  
Registration No. 41,410  
(310) 406-2362